MJD2955
MJD3055

COMPLEMENTARY POWER TRANSISTORS

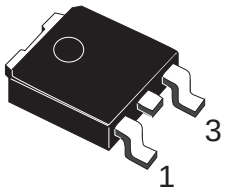
- STMicroelectronics PREFERRED SALESTYPES
- SURFACE-MOUNTING TO-252 (DPAK) POWER PACKAGE IN TAPE & REEL (SUFFIX "T4")
- ELECTRICALLY SIMILAR TO MJE2955T AND MJE3055T

APPLICATIONS

- GENERAL PURPOSE SWITCHING AND AMPLIFIER

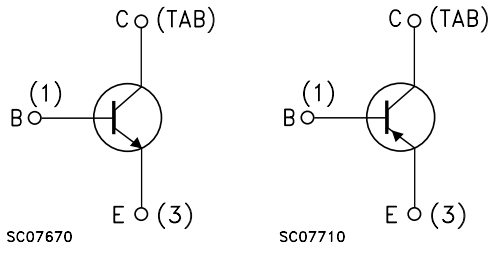
DESCRIPTION

The MJD2955 and MJD3055 form complementary PNP-NPN pairs. They are manufactured using Epitaxial Base technology for cost-effective performance.



DPAK
TO-252
(Suffix "T4")

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
		NPN	MJD3055	
		PNP	MJD2955	
V_{CBO}	Collector-Base Voltage (I_E = 0)		70	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)		60	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)		5	V
I_C	Collector Current		10	A
I_B	Base Current		6	A
P_{tot}	Total Dissipation at T_c = 25 °C		20	W
T_{stg}	Storage Temperature		-65 to 150	°C
T_j	Max. Operating Junction Temperature		150	°C

For PNP type voltage and current values are negative.

THERMAL DATA

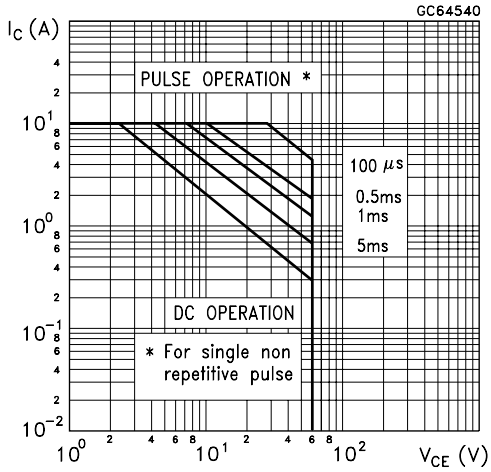
$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	6.25	°C/W
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	100	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

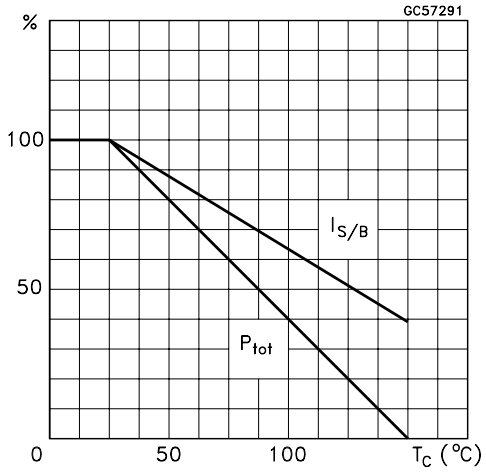
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cut-off Current (V_{BE} = -1.5 V)	V_{CE} = 70 V V_{CE} = 70 V T_j = 150 °C			20 2	µA mA
I_{CBO}	Collector Cut-off Current (I_E = 0)	V_{CB} = 70 V V_{CB} = 70 V T_j = 150 °C			20 2	µA mA
I_{CEO}	Collector Cut-off Current (I_B = 0)	V_{CE} = 30 V			50	µA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	V_{EB} = 5 V			0.5	mA
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage (I_B = 0)	I_C = 30 mA	60			V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 4 A I_B = 0.4 A I_C = 10 A I_B = 3.3 A			1.1 8	V V
$V_{BE(on)}$*	Base-Emitter Voltage	I_C = 4 A V_{CE} = 4 V			1.8	V
h_{FE}*	DC Current Gain	I_C = 4 A V_{CE} = 4 V I_C = 10 A V_{CE} = 4 V	20 5		100	
f_T	Transition Frequency	I_C = 0.5 A V_{CE} = 10 V f = 500 KHz	2			MHz

* Pulsed: Pulse duration = 300 µs, duty cycle 1.5 %
For PNP type voltage and current values are negative.

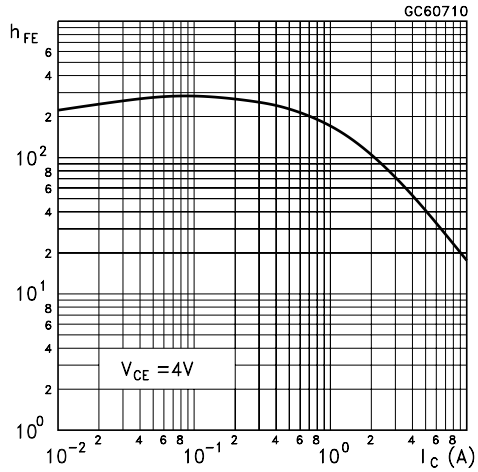
Safe Operating Area



Derating Curves



DC Current Gain (NPN type)



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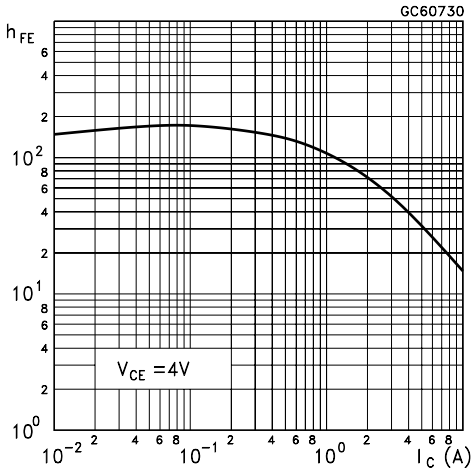
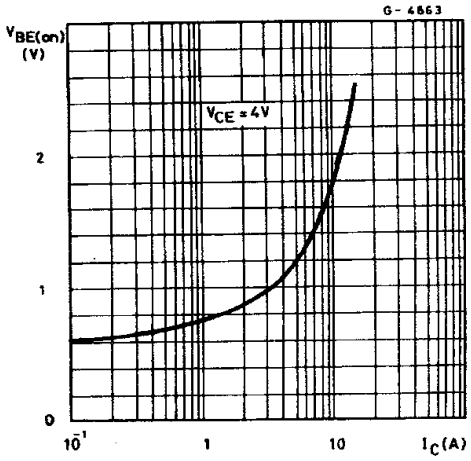


DC Transconductance (NPN type)



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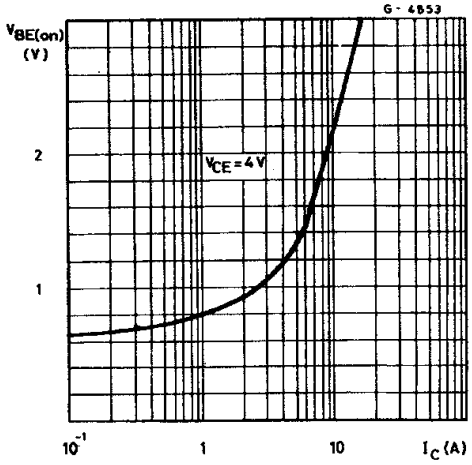
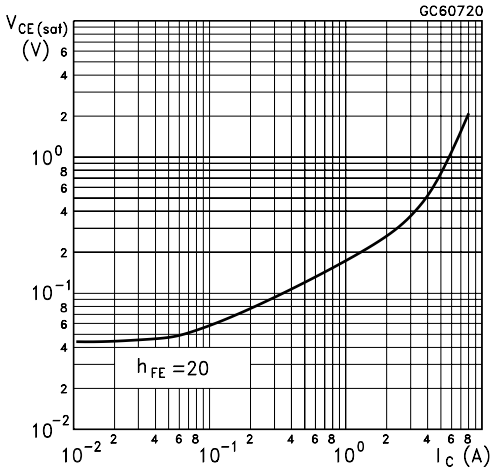


Collector-Emitter Saturation Voltage (NPN type)



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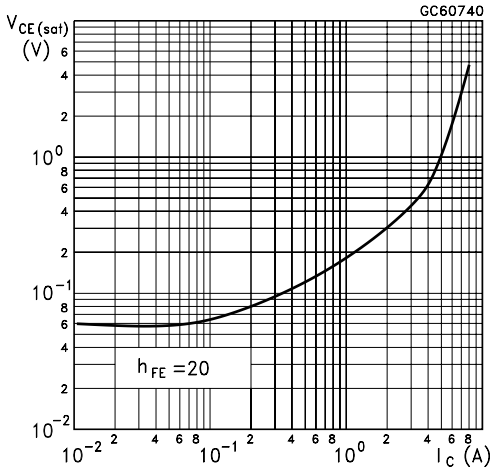
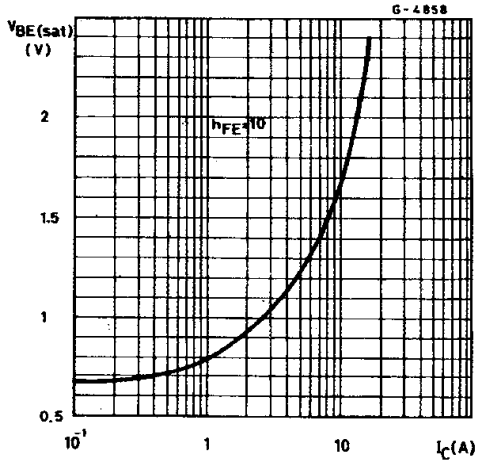


Base-Emitter Saturation Voltage (NPN type)



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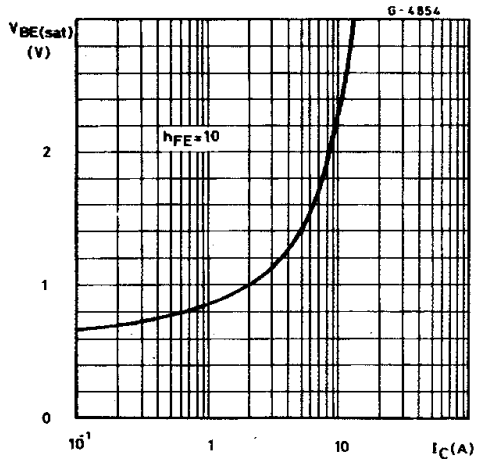
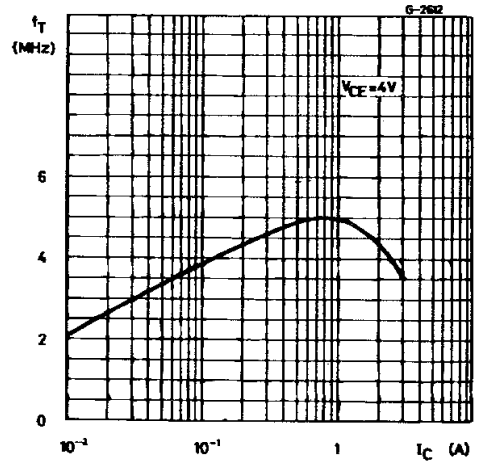


Transition Frequency (NPN type)



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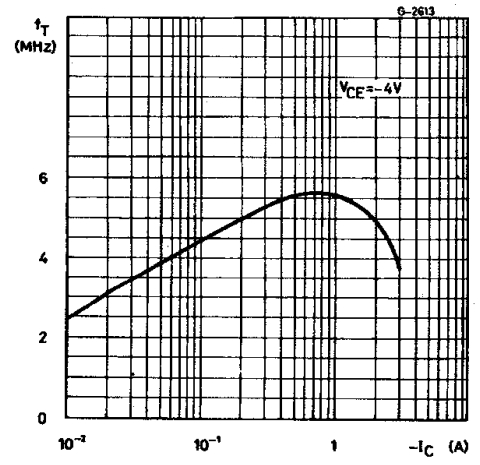
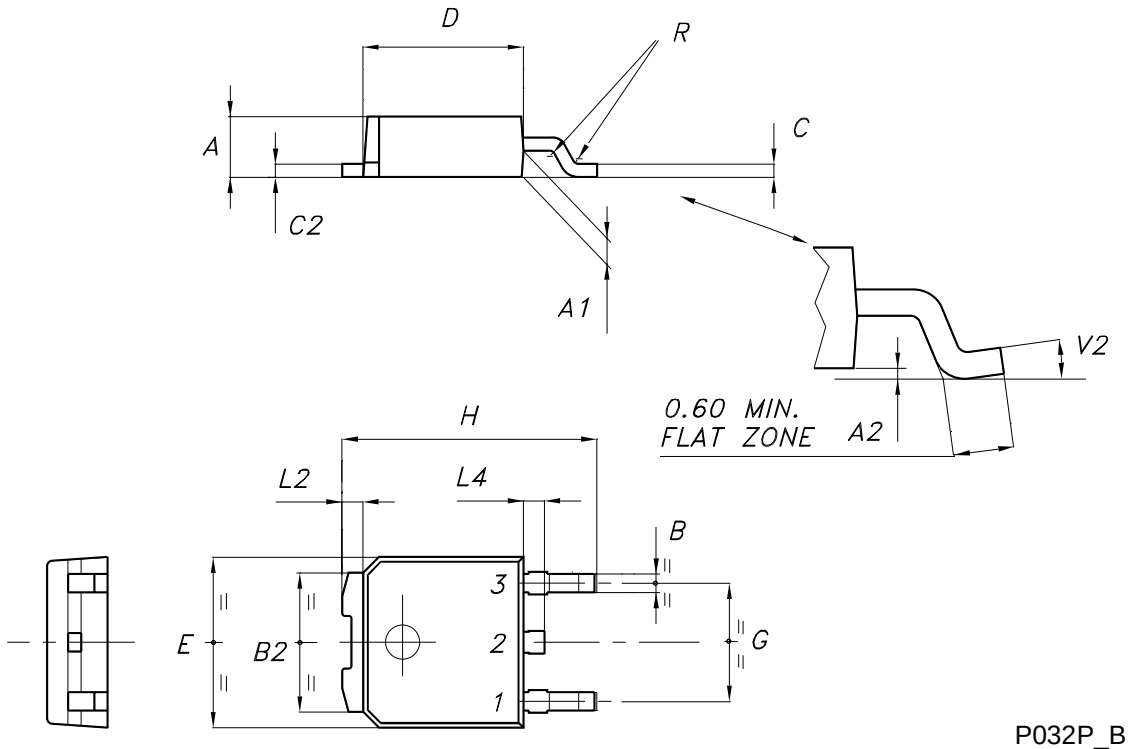


TO-252 (DPAK) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	2.20		2.40	0.087		0.094
A1	0.90		1.10	0.035		0.043
A2	0.03		0.23	0.001		0.009
B	0.64		0.90	0.025		0.035
B2	5.20		5.40	0.204		0.213
C	0.45		0.60	0.018		0.024
C2	0.48		0.60	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.60	0.252		0.260
G	4.40		4.60	0.173		0.181
H	9.35		10.10	0.368		0.398
L2		0.8			0.031	
L4	0.60		1.00	0.024		0.039
V2	0^o		8^o	0^o		0^o



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